



# AS BERGEN PATENTKONTOR

ESTABLISHED 1924  
PATENTS - DESIGNS - TRADEMARKS

European Patent Office  
International Preliminary Examining Authority  
D-80298 Munich  
Germany

Attn.: Tompouloglou, C

- 10/049991  
JC13R001PCT/PTO 19 FEB 2002
- Jan O. Orntoft
  - Trond Øvstun
  - Henry Bakke
  - Jan Vinnes
  - Reidar Gjertsen  
of counsel
  - Members Association of  
Norwegian Patent Agents

Telephone: +47 55 21 53 53  
Telefax: +47 55 21 53 50  
E-mail: bp@bergen-patent.no  
www.bergen-patent.no  
Post: P.O. Box 1998 Nordnes  
N-5817 Bergen  
Office: C. Sundtøgt. 36  
Bank: Christiania Bank og Kreditkasse  
8511.05.00704  
Registration No.: NO 815 113 737

Your ref.:

Our ref.:

TØ/ick

**BERGEN - NORWAY**

October 3, 2001

Ref.: International application No. PCT/NO00/00263  
AGR Service AS et al

Dear Sirs,

We are enclosing herewith a new set of amended claims, where the subject matter of the present claims differs from the cited documents D1 and D2. The independent claims 1 and 4 should therefore be in correct two part form with regard to D1 and D2, and the dependent claims should therefore also comply with the same.

The claims have been amended in that original claim 2 is amended to claim 1, and that original claim 6 is mainly amended to original claim 5, now new claim 4. A new claim 6 has also been amended.

Further, the expression "flow line" in parantheses has been removed.

Enclosed is also an amended discription, with a disclosure of the cited documents and adapted to the amended claims.

It should be noted that by applying the method and the system, according to the present invention, several advantages are achieved with regards to drilling sub sea surface holes. The fluid is being collected and returned to the rig whereby weighted drilling fluid can be used. This enables drilling of deeper surface holes saving fluid costs, logistic costs and casing. In some cases, in deep water dual gradient technology will not be required.

When drilling of top-holes in a closed system like this, it is of utmost importance that no seawater is mixed in the return fluid. As to the solution disclosed in D1, US 4149603, this is not achievable. The present invention has a positive scaling around the drill string, which allows for a buildup of a small over-pressure without spill of drill fluid in the surroundings, or a under-pressure without mixing of seawater in the system. The present invention thereby provides a system with zero-spill, in such a way that hazardous contamination is avoided,

before both riser and BOP is installed. None of the cited documents shows a solution where zero-spill is possible before riser and BOP is installed.

It is further specified in D1 that the system is to be utilized after BOP (blow-out preventer) is installed, in contrast to present invention which is utilized on top-holes before installation of BOP.

Regarding D2. EP 0290250, much of the same applies. It must be essentially, whether BOP is installed or not. D2 disclose a system for reduction of the pressure against the formation, in drilling at large sea depths. This technique is now called "dual gradient drilling". In conventional drilling, this problem only occurs when drilling with a riser, i.e. after BOP is installed, and when the drilling riser is filled with a heavy column of fluid. With top-hole drilling, there is no riser, and nor the column of fluid back to the surface, which creates the large static pressure. Drilling fluid and slurry will be spilled in the environment around the template and on the sea bottom, and the pressure equals the static sea pressure. The present invention disclose a system thus reducing spill during top-hole drilling, and re-use if the drilling fluid, independent of the sea depth.

With top-hole drilling, the problem is the same regardless of the water depth, as the slurry otherwise is released to the surroundings on the sea bottom. D2 discloses a system which in that respect is aimed at removing the effect of a heavy column of fluid in the drilling riser, and which is aiming at a well head pressure equal to the surrounding water depth (as with top-hole drilling).

Accordingly, the present international application is therefore new and novel, in that the subject matter of the present claims differs from the cited documents D1 and D2.

It shall also be noted that the priority application, NO 1999 4024, has been accepted by the Norwegian Patent Office, with a claim set corresponding to the one enclosed.

Yours faithfully,  
A/S BERGEN PATENTKONTOR

Trond Øvstun

Encl.: Amended description  
Amended claims